

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C. 20554

ORIGINAL

In the Matter of)
) RM No. 9411
Request for Amendment of the Commission's)
Rules to Designate Extended C-band Spectrum)
For TT&C Functions of GSO FSS Systems)
Operating in Bands Above Ku-band)

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To: The Commission

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

COMMENTS OF TRW INC.

TRW Inc. ("TRW"), by counsel and pursuant to Section 1.405 of the Commission's Rules, submits these comments on the above-captioned Petition for Rule Making, filed on August 7, 1997 by a group of nine satellite licensees ("Joint Petitioners"). The Joint Petitioners, all licensees of geostationary ("GSO") Ka-band fixed-satellite service ("FSS") systems, seek designation of 10 MHz of spectrum each in the bands 3600-3700 MHz (space-to-Earth) and 6425-6525 MHz (Earth-to-space) for tracking, telemetry and control ("TT&C") operations for GSO space stations operating FSS bands above the Ku-band — *i.e.*, in bands above 14 GHz. The Petition was placed on *Public Notice* on November 23, 1998, and comments are due today.

TRW has an interest in this matter because it has filed an application to launch and operate the Global EHF Satellite Network ("GESN"), a satellite system that would operate in both FSS bands above the Ku-band — namely, the Ka-band frequencies at 30/20 GHz and the EHF bands (also called the Q- and V-bands) at 48/38 GHz.^{1/} The GESN system will provide global coverage via four geostationary satellites operating in conjunction with a non-geostationary component consisting of fifteen satellites in three orbital planes. In its GESN Application, TRW

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^{1/} See TRW Global EHF Satellite Network Application, filed September 4, 1997, and Amendment, filed December 22, 1997 ("GESN Application").

proposes to operate transfer orbit TT&C and emergency satellite recovery links in C-band frequencies.

TRW endorses the Joint Petitioners' request, but believes that the Commission, as it proceeds to a notice of proposed rule making, should clarify or expand the scope of the original proposal: (1) to make clear that the C-band frequencies sought would be available to all GSO FSS services above Ku-band, including both the Ka-band and the EHF bands,^{2/} and (2) to provide specifically that NGSO systems would be eligible to make use of these frequencies for TT&C, for transfer orbit as well as in emergency/recovery mode, on a non-interfering basis to GSO systems. Although the Petition is directed toward the needs of Ka-band GSO satellite licensees, most of the arguments advanced in support of the allocation are also applicable to systems that will operate in other bands above Ku-band and to NGSO satellite systems. *See* Petition at 4, 5. TRW notes, in this last regard, that the Commission filed advance publication and/or coordination materials with the International Telecommunication Union this past Fall that specify use of the extended C-band spectrum in the range covered by the petition for TT&C requirements for both GSO and NGSO satellites in the Ka and EHF bands. Accordingly, the designation of this spectrum for FSS TT&C generally is appropriate and consistent with other recent Commission actions.

With respect to the second request noted above, there are as many as a dozen NGSO satellite system applications currently pending in the Ka-band and EHF bands. Many of those systems will require C-band TT&C spectrum for transfer orbit and recovery mode

^{2/} A request for to make the extended C-band spectrum available for TT&C across all of these bands is implicit in the Petition, which makes reference to systems operating "in higher frequency bands (*i.e.*, above Ku-band)," which necessarily encompasses both Ka-band and the still higher EHF bands. Petition at 2.

operations. In its GESN application, TRW requested authority to use C-band frequencies for transfer orbit and emergency recovery TT&C for both GSO and NGSO satellites operating in the Ka- and EHF bands. Although TRW and other applicants may have specified bands above C-band for their on-station TT&C operations, the Commission will need to ensure that sufficient spectrum is available at C-band to accommodate the transfer orbit and emergency/recovery mode TT&C requirements for these systems.

As a final matter, TRW notes with some alarm that there is an apparent inconsistency between the Commission's *sua sponte* proposal advanced just last week in ET Docket No. 98-237^{3/} and the proposal in this rulemaking proceeding, which was initially submitted to the Commission more than sixteen months ago. In ET Docket No. 98-237, the Commission has proposed to allocate the 3650-3700 MHz band on a co-primary basis to the fixed service for purposes including Fixed Wireless Access. At the same time, it states that it will no longer accept applications for use of this band "by new or major modified earth station facilities in the fixed-satellite service" after the release date of the *NPRM*.^{4/} No mention whatsoever was made in the notice of proposed rule making of the Joint Petitioners' long-pending proposal.

It may be possible for the Commission to derive limits for the 3650-3700 MHz band, to apply to terrestrial and/or satellite users, that would enable certain types of wireless and satellite applications to coexist there. At the very least, a careful examination of the prospects for co-frequency use needs to be undertaken. In TRW's view, however, the Commission's approach

^{3/} See *Amendment of the Commission's Rules with Regard to the 3650-3700 MHz Government Transfer Band*, FCC 98-337, slip op. (released December 18, 1998).

^{4/} *Id.* at ¶ 2.

of a preemptive and total freeze on earth station applications for the band seems extreme, and prejudicial to the outcome of any forthcoming technical compatibility inquiries.

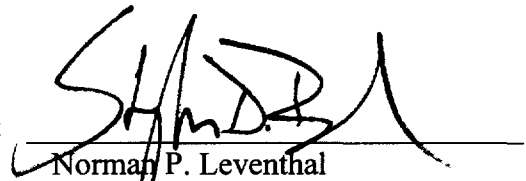
TRW anticipates that there will be significant negative comment from members of the satellite industry on the proposal advanced in ET Docket No. 98-237. Whatever else it does, the Commission should ensure that sufficient spectrum is available to accommodate FSS TT&C in the extended C-band frequencies proposed by the Joint Petitioners.

In sum, TRW urges the Commission to institute a rulemaking proceeding that implements the Joint Petitioners' proposal, and expands upon the same to include TT&C spectrum requirements for Ka- and V-band NGSO systems. The latter would be able to use the designated spectrum for transfer orbit and in emergency/recovery mode on a non-interfering basis.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I, Lorene J. Miller, hereby certify that a true and correct copy of the foregoing "Comments of TRW Inc." was this 23rd day of December, 1998, sent by U.S. first-class mail, postage pre-paid, to the following:

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